

**MODIFIED POLYPEPTIDES STABILIZED IN A DESIRED CONFORMATION
AND METHODS FOR PRODUCING SAME**

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Abstract of the Disclosure

The present invention provides a method for stabilizing a protein in a desired conformation by introducing at least one disulfide bond into the polypeptide.

Computational design is used to identify positions where cysteine residues can be
10 introduced to form a disulfide bond in only one protein conformation, and therefore lock
the protein in a given conformation. Accordingly, antibody and small molecule
therapeutics are selected that are specific for the desired protein conformation.

The invention also provides modified integrin I-domain polypeptides that are
stabilized in a desired conformation. The invention further provides screening assays
15 and therapeutic methods utilizing the modified integrin I-domains of the invention.

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